

Appendix F

Pollution Prevention/Good Housekeeping

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Appendix F.1 Salt and Sand Usage

MDOT Salt and Sand Usage

Winter 2005-2006

Municipal Salt Oct 2005-April 2006

Region	LANE MILES	TONS/DATE	TONS/LANE MILE
Superior	206.74	4674.25	22.61
North	147.13	5822.00	39.57
Grand	100.24	1523.90	15.20
Bay	296.71	6131.60	20.67
Southwest	299.52	3876.30	12.94
University	387.73	9496.72	24.49
Metro	251.69	4217.40	16.76
TOTAL	1689.76	35742.17	21.75

County and Direct Forces Salt & Sand

Oct 2005-April 2006

Region	LANE MILES	SALT/TONS	TONS/LANE MILE	SAND/TONS	TONS/LANE MILE
Superior	4015.9	96389.9	24.0	39871.4	9.9
North	4808.5	119610.9	24.9	35953.5	7.5
Grand	3368.4	85388	25.3	14288.8	4.2
Bay	4356.2	68744.5	15.8	58.0	0.0
Southwest	3743.5	53938.1	14.4	67.9	0.0
University	4301.4	60028.3	14.0	10980.1	2.6
Metro	4778.6	99469	20.8	0.0	0.0
TOTAL	29372.5	583568.7	19.9	101219.7	3.5

Combined Total (municipal, county, direct)

Oct 2005-April 2006

Region	LANE MILES	SALT/TONS	TONS/LANE MILE	SAND/TONS	TONS/LANE MILE
Superior	4222.6	101064.2	23.9	39871.4	9.4
North	4955.6	125432.9	25.3	35953.5	7.3
Grand	3468.6	86911.9	25.1	14288.8	4.1
Bay	4652.9	74876.1	16.1	58.0	0.0
Southwest	4043.0	57814.4	14.3	67.9	0.0
University	4689.1	69525.0	14.8	10980.1	2.3
Metro	5030.3	103686.4	20.6	0.0	0.0
TOTAL	31062.3	619310.9	20.0	101219.7	3.3

Appendix F.2 Maintenance Activity Costs for MDOT Direct Forces

MDOT PCA Costs and Details FY 2006

Region	Activity		# Hours	Cost	# Units	Cost/unit
Superior	Roadside Maintenance	Catch Basin Cleanout	2,312	\$251,974	3,539	\$71
	General Maintenance	Approach Sweeping	61	\$2,141	45	\$48
		Curb Sweeping	1,069	\$54,942	Not available	Not available
		Total	3,442	\$309,057	-	-
North	Roadside Maintenance	Catch Basin Cleanout	1,477	\$123,357	2,447	\$50
	General Maintenance	Approach Sweeping	468	\$25,350	1,117	\$23
		Curb Sweeping	30	\$10,239	Not available	Not available
		Total	1,975	\$158,946	-	-
Grand	This region does not have any direct forces garages. Maintenance is done by local agencies.					
Bay	Roadside Maintenance	Catch Basin Cleanout	211	\$13,700	5	\$2,740
	General Maintenance	Approach Sweeping	365	\$19,679	610	\$32
		Curb Sweeping	1,140	\$366,335	320.5 curb miles	\$1,143
		Total	1,716	\$399,714	-	-
Southwest	Roadside Maintenance	Catch Basin Cleanout	413	\$185,418	2,582	\$72
	General Maintenance	Approach Sweeping	1,018	\$42,458	2,245	\$19
		Curb Sweeping	8	\$82,491	175 curb miles	\$471
		Total	1,439	\$310,367	-	-
University	Roadside Maintenance	Catch Basin Cleanout	129	\$4,504	234	\$19
	General Maintenance	Approach Sweeping	1,580	\$62,963	4,559	\$14
		Curb Sweeping	0	\$51,535	0	-
		Total	1,709	\$119,002	-	-
Metro	Roadside Maintenance	Catch Basin Cleanout	38	\$95,871	Not available	Not available
	General Maintenance	Approach Sweeping	0	\$1,006,008	0	-
		Curb Sweeping	16	\$296,584	Not available	Not available
		Total	54	\$1,398,463	-	-
Total*	Roadside Maintenance	Catch Basin Cleanout	4,542	\$578,953	8,807	\$66
	General Maintenance	Approach Sweeping	3,492	\$152,591	6,710	\$23
		Curb Sweeping	2,273	\$565,568	-	-
		Total	10,307	\$1,297,112	-	-

* Hourly and unit totals for Catch Basin Cleanout and Approach and Curb Sweeping do not include complete data from the regions. Cost information is assumed to be correct.

Appendix F.3 Maintenance Activity Costs for Contracted Agencies

Local Agency Payment System (LAPS) Report Summary for Maintenance Activities

Region	Activity	Cost	Lane Miles	Cost per Lane Mile	Average Cost per Hour	<i>Approximate Total Hours ¹</i>
Superior	Street Sweeping and Flushing	\$36,507	3,301	\$11.06	\$97	<i>376</i>
	Culvert/Underdrain Maintenance	\$88,779	3,300	\$26.90	\$81	<i>1,096</i>
	Ditch Clean-out	\$103,334	3,300	\$31.31	\$68	<i>1,520</i>
	Total	\$228,620	9,901	\$23.09	\$82	<i>2,992</i>
North	Street Sweeping and Flushing	\$98,727	4,048	\$24.39	\$76	<i>1,299</i>
	Culvert/Underdrain Maintenance	\$161,764	4,048	\$39.96	\$74	<i>2,186</i>
	Ditch Clean-out	\$14,379	4,050	\$3.55	\$75	<i>192</i>
	Total	\$274,870	12,146	\$22.63	\$75	<i>3,677</i>
Grand	Street Sweeping and Flushing	\$275,097	3,368	\$81.67	\$239	<i>1,151</i>
	Culvert/Underdrain Maintenance	\$36,574	3,368	\$10.86	\$226	<i>162</i>
	Ditch Clean-out	\$19,609	3,369	\$5.82	\$56	<i>350</i>
	Total	\$331,280	10,105	\$32.78	\$174	<i>1,663</i>
Bay	Street Sweeping and Flushing	\$235,587	3,341	\$70.51	\$123	<i>1,915</i>
	Culvert/Underdrain Maintenance	\$181,342	3,341	\$54.27	\$88	<i>2,061</i>
	Ditch Clean-out	\$2,087	3,366	\$0.62	\$58	<i>36</i>
	Total	\$419,016	10,049	\$41.70	\$90	<i>4,012</i>
Southwest	Street Sweeping and Flushing	\$53,115	748	\$71.05	\$100	<i>531</i>
	Culvert/Underdrain Maintenance	\$77,967	748	\$104.29	\$382	<i>204</i>
	Ditch Clean-out	-	0	-	-	<i>0</i>
	Total	\$131,082	1,495	\$87.67	\$241	<i>735</i>
University	Street Sweeping and Flushing	\$254,501	2,489	\$102.24	\$433	<i>588</i>
	Culvert/Underdrain Maintenance	\$72,451	2,489	\$29.11	\$44	<i>1,647</i>
	Ditch Clean-out	\$17,904	2,490	\$7.19	\$70	<i>256</i>
	Total	\$344,856	7,468	\$46.18	\$182	<i>2,490</i>
Metro	Street Sweeping and Flushing	\$2,898,490	4,385	\$660.99	\$72	<i>40,257</i>
	Culvert/Underdrain Maintenance	-	0	-	-	<i>0</i>
	Ditch Clean-out	-	0	-	-	<i>0</i>
	Total	\$2,898,490	4,385	\$660.99	\$72	<i>40,257</i>
Total	Street Sweeping and Flushing	\$3,852,024	21,680	\$177.68	\$163	<i>46,117</i>
	Culvert/Underdrain Maintenance	\$618,877	17,294	\$35.79	\$149	<i>7,355</i>
	Ditch Clean-out	\$157,313	16,576	\$9.49	\$65	<i>2,353</i>
	Total	\$4,628,214	55,551	\$83.32	\$141	<i>55,826</i>

¹Wayne County and many cities do not report labor hours in LAPS. The number of hours listed in italics is based the average "cost per hour" obtained from local agencies which had reported the number of their hours spent on the activity.

